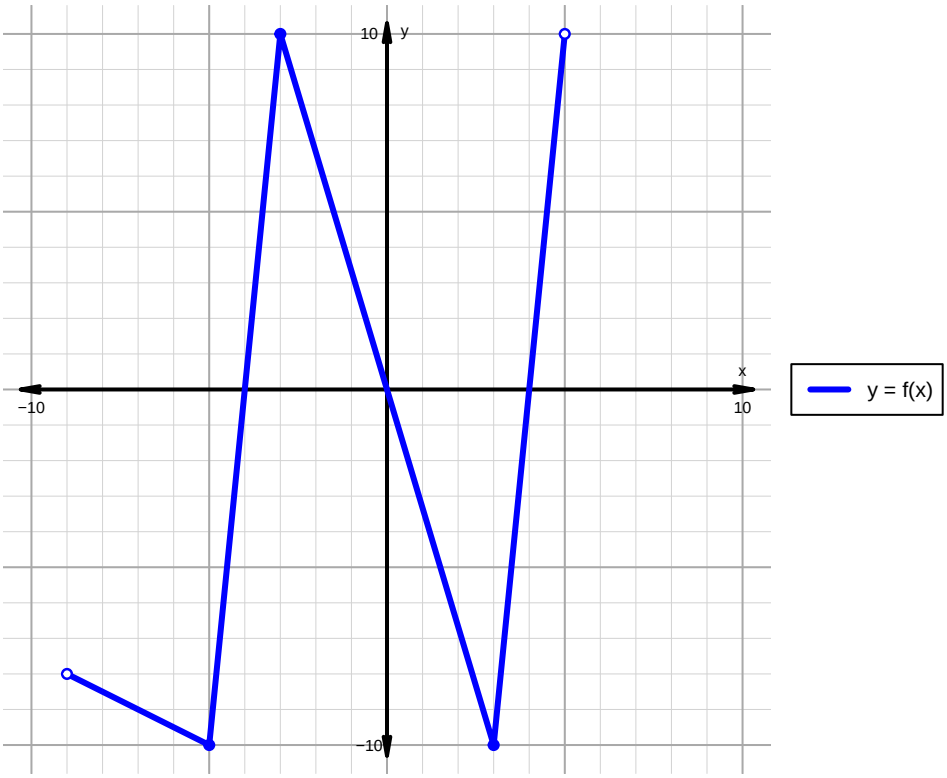
Name: Date:

Intervals, Transformations, and Slope Solution (version 82)

1. The function f is graphed below.



Indicate the following intervals using interval notation. Remember, you can use $\cup$ between two intervals to indicate the union. Except for range, all intervals will indicate x values; this is standard.

Feature	Where
Positive	$(-4, 0) \cup (4, 5)$
Negative	$(-9, -4) \cup (0, 4)$
Increasing	$(-5, -3) \cup (3, 5)$
Decreasing	$(-9, -5) \cup (-3, 3)$
Domain	$(-9, 5)$
Range	$(-10, 10)$

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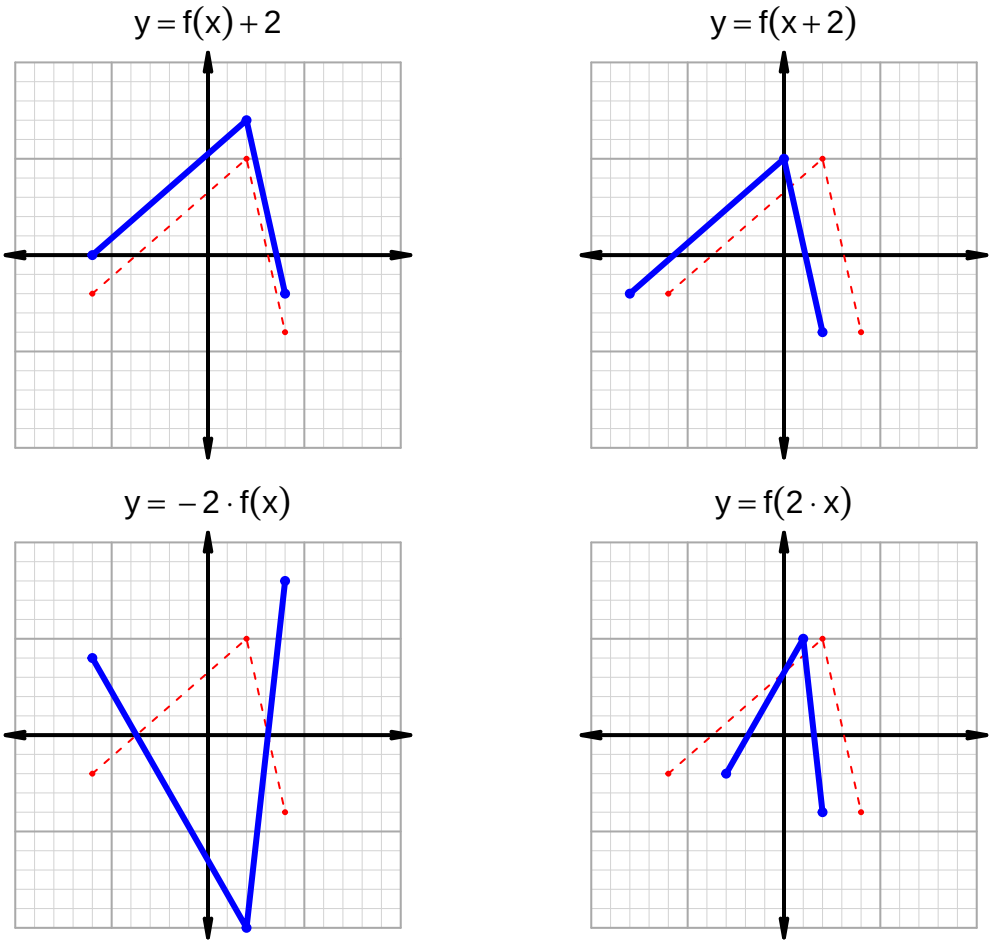
2. In the four graphs below, $y = f(x)$ is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.



3. Let function g be defined by the table below. Use the formula $\frac{g(x_2)-g(x_1)}{x_2-x_1}$ to find the average rate of change between $x_1 = 33$ and $x_2 = 61$. Express your answer as a reduced fraction.

x	$g(x)$
13	33
33	49
49	61
61	13

$\frac{g(61)-g(33)}{61-33} = \frac{13-49}{61-33} = \frac{-36}{28}$

The greatest common factor of -36 and 28 is 4. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{-9}{7}$$